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ABSTRACT

Reduced funding for educational programs indicated that a thorough review should be made of the Advanced Academic Degree (AAD) validation process. This reduction in funding necessitates more effective management of the AAD program in the logistics career areas to insure that officers in these career areas require those skills learned through these education programs to effectively accomplish the logistics mission. This study addresses the problem by conducting an analysis of the logistics AAD program. The researchers evaluated 845 requests for AAD positions based on criteria such as: duties and responsibilities of the position, organizational level of the position, proper alignment between Air Force Speciality Code (AFSC) and the AAD code requested, and finally, the written justification of the request. A chi-square nonparametric statistic test indicates that there is disparity among Major Air Commands with respect to the AFSC requiring AAD positions in nine of the ten logistics career areas. This disparity further indicates inconsistency in the understanding and application of criteria used in the validation process at Air Force level. In summary, the study indicated that the current validation process was not operating in a completely satisfactory manner and several recommendations were made to improve the validation process. (Author)

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AN EVALUATION OF THE AIR FORCE LOGISTICS CAREER AREA ADVANCED ACADEMIC DEGREE POSITION VALIDATION PROCESS

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SLSR 9-75B

AN EVALUATION OF THE AIR FORCE LOGISTICS CAREER AREA ADVANCED ACADEMIC DEGREE POSITION VALIDATION PROCESS

A Thesis

Presented to the Faculty of the School of Systems and Logistics

of the Air Force Institute of Technology

Air University

In Partial Fulfillment of the Requirements for the

Degree of Master of Science in Logistics Management

By

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August 1975

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This thesis, written by

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and

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has been accepted by the undersigned on behalf of the faculty of the School of Systems and Logistics in partial fulfillment of the requirements for the degree of

MASTER OF SCIENCE IN LOGISTICS MANAGEMENT

DATE: 13 August 1975

Arthur F. Arnold

COMMITTEE CHAIRMAN

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Chapter I

INTRODUCTION

Background

In today's age of rapid technological advancements, the Air Force is placing greater emphasis on the management of resources under austere budget limitations (16:10). Since there is a need for increased efficiency and effectiveness in logistics management due to the austere budget limitations, the Air Force is providing for education up to and including advanced education programs to insure that certain personnel possess the technical and professional skills required to properly manage scarce resources (14:1).

In August, 1967, the Air Force published Air Force Regulation (AFR) 53-7, Officer Advanced Degree Requirements, RCS: HAF P207, which provided guidelines for establishing positions requiring advanced degrees (6:2). AFR 53-7 required the Major Air Commands (MAJCOM) to identify selected positions requiring advanced degrees to Headquarters Air Force (6:2). These positions were then reviewed and either validated or disapproved by the Air Force Education Requirements Board (AFERB) (6:2). AFR 53-7 was superseded on 14 November 1972 by Air Force Manual

(AFM) 36-19, Advanced Academic Degree Management System (15:3). AFM 36-19 (14:1) established the advanced academic degree management system (AADMS) for the Air Force. "It prescribed details of the advanced academic degree (AAD) requirements identification, reporting, and validation functions [4:1]." The manual also developed the guidelines for determining and reporting the career areas having advanced degree requirements (16:3). The logistics career area is one of those career areas.

Statement of the Problem

Since 1967, the Logistics Panel of the AFERB has validated 1,822 positions requiring advanced degrees in the logistics career areas. However, in January, 1975, the panel deleted all General and Colonel positions from the AAD requirements, which reduced the number of validated positions by 454, leaving a total of 1,368 validated positions (2). Of this total, there are 11 PhD validated positions and 196 Master's degree positions for activities outside of the Air Force such as Defense Supply Agency, Defense Nuclear Agency, Joint Chief of Staff's Staff, United States Army Logistics Management Center, and the National Guard Bureau (19:25-26).

In an interview, Colonel Gordon, (14), Chief, Graduate Edcuation Division, School of Systems and Logistics, Air Force Institute of Technology (AFIT), stated that prior to the publishing of AFM 36-19, all requests

for establishing AAD positions from the MAJCOM's were approved and validated with little emphasis on the areas now required by AFM 36-19. These areas are as follows:

1. Justifications for an AAD position.

2. The Air Force Speciality Code (AFSC) of the position.

3. Organizational level of the position.

Since publication of AFM 36-19, the Air Force has refined this process by requiring the MAJCOM's to adhere to the guidelines in the manual and has instructed the career area panels of the AFERB[1] to insure that all AAD requests are fully justified before being validated (2).

Preliminary research of the available requests indicated that the Logistics Career Area Panel now considers justifications for the AAD position as the main factor for approving and validating the position. However, a review of the Logistics Panel Reports (16,17,18,19) indicated that there is inconsistency in the validation of positions within logistics career area AFSC's. Therefore, a review of the current validation process is necessary to determine if it is operating in a satisfactory manner. Satisfactory manner implies that there is a consistency in the understanding and the application of the criteria used in the validation process at all levels; i.e., originating level,

[1]Career area panels of the AFERB deal with functions such as logistics, personnel, civil engineering, security police, and operations.

reviewing level, and approving level. If not, recommendations will be developed to attempt to improve the validation process for the AAD programs in the logistics career areas.

Definition of Terms

Advanced Academic Degree (AAD). An academic degree at the PhD or Master's level (14:1).

Academic Speciality Code. A four character code which defines the academic field of study. Advanced academic degree requirements are established on the basis of these codes (14:1).

Logistics Career Field. The logistics career field includes the following Air Force Speciality Codes (AFSC) and utilization fields (19:6-10):

AFSC	Utilization Field
004X	Director of Logistics
31XX	Missile Maintenance
40XX	Aircraft Maintenance/Avionics
46XX	Munitions
60XX	Transportation
62XX	Supply Services
63XX	Fuels Management
64XX	Supply Management
65XX	Procurement Management
66XX	Logistics Plans and Programs

Importance of the Problem

The Air Force Officer of today is expected to solve more divergent and complex problems than ever before in our history (1:60). In order to cope with these problems, the

logistics manager must obtain a broader knowledge in the scientific, technological, managerial, and medical fields through higher education programs (1:61-63). The Air Force is providing positive programs for its logistics managers to obtain this broader knowledge through the Air Force Institute of Technology's programs both in residence and at civilian institutions. In addition, the Air Force has identified positions as requiring an AAD with a specific academic speciality code (14:A1-1). In the logistics area, the MAJCOM's submit requests to Air Force for establishing AAD positions by submitting AF Form 1779, Request to Establish/Change Advanced Academic Degree Position (19:4-2).

A recent study by the General Accounting Office (GAO) indicated that the criteria used by the Air Force for identifying military officer positions requiring graduate level education and the use of these criteria are so broad and permissive that almost any officer position could be certified as requiring graduate level education (3:13).

The Air Force has been aware of the problem of identification of AAD positions since 1970, as pointed out in the Report of the Logistics Panel of the AFERB, dated 14 May 1970 (16). One finding was that the descriptions of duties and responsibilities in AFM 36-1, Officer Classification Manual, are rather general with no specific

mandatory requirements for an advanced degree (16:6). Most of the justifications for the AAD positions are extracted from this manual, and a review of AFM 36-1 revealed that the manual still had rather general requirements for advanced degrees. Also, the panel found in reviewing AAD validated positions that inconsistencies exist within a MAJCOM and between MAJCOM's concerning the academic speciality codes required for the same AFSC (16:6).

In an interview, Lt Colonel Brown (2), Chairman, Logistics Panel, AFERB, pointed out that the Air Force has been directing each panel of the AFERB to thoroughly review their validation process for AAD requirements because of the reduction in funds available for educational programs. Also, the grades of the AAD positions have been reviewed resulting in the deletion of the General and Colonel positions previously noted. Therefore, it has become apparent that the entire AAD validation process in the Logistics Career Areas needs to be reviewed and recommendations developed toward improving the AAD program in this area.

Previous Studies

A review of the research associated with this problem revealed no evidence of studies to determine whether or not the validation process is functioning in a

satisfactory manner. The studies reviewed here were directed primarily toward the dimensions of the managerial positions.

Captains Hale and Rooney (5) conducted a study to ascertain whether the performance of graduates of the School of Systems and Logistics were superior to that of non-graduates in certain aspects of the managerial job. These aspects were found to be concentrated in five of the nine managerial job dimensions studied in the thesis. The five job dimensions were as follows: (1) decision-making, (2) performance style, (3) planning, (4) communication, and (5) general evaluation. The results and implications were that the Graduate Logistics Management Program strengthens the logistics manager's decision-making, planning ability, improves his communicative skills and performance style. However, the team could not formulate any conclusions about the overall performance of the graduates.

A study by Mr. Charles E. Pomeroy (9) included an analysis of attitude factors related to the School of Systems and Logistics graduate degree programs by graduates and students in classes 1966 through 1971A. Pomeroy concluded that students and graduates alike felt that there were both significant favorable aspects and undesirable aspects of the program. "The quality of the program, promotion opportunities after graduation, added

responsibilities, achievement opportunities, and recognition were all aspects usually viewed as favorable [9:43-44]." The undesirable aspects were mainly the impact of the activity upon their family and children and the social climate (9:44). Therefore, he concluded that the main advantages of the graduate degree programs were in areas of personal growth and improvement to the graduate's management skills (9).

Captain David P. Kirby (6) conducted a study to determine the differences between positions requiring advanced degrees and those positions not requiring advanced degrees. The results of this study imply that the Air Force should expand its program of identifying positions requiring a Master's Degree to the developmental positions. Most of the officers holding a Master's Degree are company grade officers. To realize their potential, they must be assigned to positions having educational requirements commensurate with their educational level. However, his study was limited to the logistics career area in Headquarters Air Force Logistics Command.

A review of the Reports of the Logistics Panel of the Air Force Education Requirements Board revealed that they contain the history of the AAD programs and the number of total validated AAD positions by AFSC in each Major Air Command and other DOD operating agencies which use Air Force personnel (16,17,18,19). These reports trace the

history of the Logistics Panel and describe what recommendations have been made in the past by the panels. The reports also provide the methodology that was originally used in the AAD program for the logistics career area up to the present methodology used by the logistics panel.

Air Force Manual (AFM) 36-19, Advanced Academic Degree Management System (AADMS) (14), was reviewed to obtain current Air Force guidelines on the AAD program. The manual provides the specific guidelines for determining and reporting AAD requirements to Headquarters Air Force (HQ USAF). For example, the supervisor is the key to determining requirements since he is the person most familiar with the duties and responsibilities of personnel under his supervision. The next level is the commander who monitors the establishment of AAD requirements for units under his command to insure adequacy of requirements. From the commander, the request goes to the MAJCOM functional manager who has authority to disapprove and return to the originator or recommend approval and forward to HQ USAF. The functional manager at HQ USAF can disapprove the request or recommend approval and forward to the Logistics Career Area Panel. The panel makes the final decision as to whether the position should be validated and added to the manpower document or disapproved. AFM 36-19 also provides the guidelines for the operation of the Logistics Career Area Panel (14:Ch.11).

Two other related directives which describe aspects of the AAD were also reviewed. Department of Defense Directive 1322.10, Policies on Graduate Education for Military Officers (13), provides the policies governing the graduate education requirements for military officer positions and the utilization of qualified officers in these positions. AFM 36-1, Officer Classification Manual (15), was reviewed to ascertain whether the descriptions of duties and responsibilities provided specific mandatory requirements for an advanced degree. From the review of the manual, it was found that level of responsibility by AFSC determines whether a position is required or preferred for a Master's degree. There were no positions in the logistics career area that required the incumbent to possess a Master's degree.

Scope

This study was limited to an evaluation and review of the current validation process to see if it is operating in a satisfactory manner. The study was not concerned with the AAD validation processes of the other Air Force career areas such as civil engineering, administration, personnel, and security police. In addition, the team did not review the validated AAD positions in the logistics career areas that are outside of the Air Force because most of these agencies have unique AAD requirements.

Statistical tests using data collected from the Logistics Panel of the AFERB established part of the data base. For additional data, all available requests (AF Form 1779) for establishing AAD positions in the Logistics Career Area were reviewed and a content analysis was completed. Selected members of the Logistics Panel were interviewed to determine past, present, and future Air Force plans for validating positions in the logistics career area. These selected personnel were also interviewed to ascertain their views on the present validation process and to solicit their recommendations for improving the validation process.

Objectives

The first objective of this study was to determine whether or not the current validation process is operating in a satisfactory manner as previously defined.

If the current validation process was not operating properly, the second objective was to develop recommendations for improving the current methods of validating AAD positions in the logistics career areas.

Research Question

The following research question guided the research effort:

Is the current logistics career area validation process operating in a satisfactory manner?

Chapter II

METHODOLOGY

Population/Data Sources

The population of interest consisted of all validated AAD positions in the logistics career area as of 4 September 1974. However, in order to properly evaluate the validation process, the total authorized position strength by MAJCOM and by AFSC in the logistics career areas within the Air Force was obtained. The individual AFSC's were further divided into two categories: (1) Validated AAD positions which collectively constituted the population of interest and (2) Non-validated or all other positions in the AFSC. Since only the total available number was used in this study, a census of the population of interest was possible. The commands classified as MAJCOM's for this study were as follows:

Aerospace Defense Command (ADC)
Air Force Logistics Command (AFLC)
Air Force Systems Command (AFSC)
Air Training Command (ATC)
Alaskan Air Command (AAC)
Headquarters, Air Force (HAF)
Headquarters, Command USAF Special (HQ CMD SPEC)
Military Airlift Command (MAC)
Pacific Air Forces (PACAF)
Strategic Air Command (SAC)
Tactical Air Command (TAC)
United States Air Forces in Europe (USAFE)

The remaining commands and operating agencies were combined into one group called Combined Command. This combination was used because of the small number of logistics career area AFSC's and in order to meet the requirements for the statistical tests. These commands and operating agencies were as follows:

Aeronautical Chart and Information Center (ACIC)
Air Force Accounting and Finance Center (AFAFC)
Air Force Communication Service (AFCS)
Air Force Data Systems Design Center (AFDAA)
Air Force Office of Special Investigation (AFOSI)
Air Force Reserve (AFR)
Air Reserve Personnel Center (ARPC)
Air University (AU)
Headquarters, Command USAF (HQ COM)
United States Air Force Academy (USAFA)
United States Air Force Security Service (USAFSS)
United States Air Force Southern Command (USAFSO)

Appendix A contains the present advanced degree requirements by AFSC and MAJCOM which provided the information for data source one.

Data source two consisted of a census of available validated/approved requests and disapproved requests for establishing AAD positions in the logistics career areas.

The third data source consisted of interviews with selected members of the Logistics Panel of AFERB. Interviews were restricted to key individuals who possessed intimate knowledge of the validation process. Time constraints and location of some of the individuals dictated that only a small sample could be taken.

Data Collection Plan

The data which was used to answer the research question was obtained from the three sources previously mentioned. Data source one was composed of the number of validated AAD positions and the authorized strength in the logistics career areas. This data was obtained from the data files of the Logistics Systems Division, Directorate of Logistics Plans and Programs, Headquarters, Air Force (AF/LGXY). These data files were used because AF/LGXY has been designated as the responsible office for the AAD program of the logistics career areas.

Data source two consisted of all approved and disapproved requests for establishing AAD positions on file for the logistics career areas. These requests were reviewed to ascertain which requests the researchers felt should have been approved and which requests should not have been approved by the Logistics Panel of the AFERB, using the criteria specified below. The requests were first divided into two categories: (1) approved/validated position requests and (2) disapproved position requests. Each of these two categories was subdivided into three categories and a content analysis of each request was performed. The three sub-categories and the content analysis evaluation criteria were as follows:

1. Duties and responsibilities associated with the position.

Was the position of a level such that it carries the title of Director/Deputy, Chief/Deputy, or Division Chief at Headquarters, Air Force, MAJCOM, Numbered Air Force, or Air Logistics Center level?

The request was scored a one if it met the criteria above and a zero if it did not.

2. Academic Speciality Code.

Was the Academic Speciality Code of the request appropriate for the AFSC and job title as outlined in Chapter 11, AFM 36-19?

The request was scored a one for proper alignment and a zero for improper alignment.

3. Adequate justifications.

Did the justifications for the request contain sufficient information to determine whether or not the position required an AAD code?

The request was scored a one if the position justification was descriptive as to what the position workload entailed and commensurate to a graduate level degree. The request received a zero if the justification lacked descriptive wording and/or only referenced one of the figures in Chapter 11, AFM 36-19.

Although the content analysis evaluation was performed using the above criteria, each researcher used the

guidelines established in AFM 36-19 (14) and AFM 36-1 (15) to assist in the evaluation and categorizing for the content analysis. Table 1 includes the format that was used for the content analysis of each request.

Table 1

Content Analysis

Sub-Categories	Approved/Validated Requests Rating "0" or "1"	Disapproved Requests Rating "0" or "1"
Duties and Responsibilities		
Academic Speciality Code		
Adequate Justifications		
Recommendation: OK or Revalidate		

When this evaluation was completed on all requests, only those requests which rated a "1" in all three sub-categories were deemed an approved/validated position. Those requests which did not rate a "1" in all three sub-categories were classified as positions which were disapproved and required revalidation by the Logistics Panel. The disapproved requests that were rated a "1" in all three sub-categories were deemed as approved/validated positions by the researchers.

The third data base was obtained by unstructured interviews with key individuals associated with the validation process. Members of the Logistics Panel were in a position to assist the researchers in determining what the Logistics Panel considered as being necessary requirements for position validation. Although these interviews were basically unstructured, the interview guide in Appendix B was used to initialize the interviews.

Design to Answer the Research Question

In order to show whether or not the current validation process is consistent in the understanding and the application of the criteria used in the process at all levels, the chi-square contingency table for a test of independence was used. The population parameters were a census; therefore, the use of inferential statistics was inappropriate. The test was conducted for each of the ten AFSC's in the logistics career area. The collected data was categorized into two classes: validated positions within an AFSC by MAJCOM and non-validated positions within AFSC by MAJCOM. This yielded nominal level data which was appropriate for the chi-square contingency table. This chi-square nonparametric test (9:104-111) was conducted at the 95 percent confidence level for each AFSC.

A population value by AFSC was determined by the chi-square contingency table and was compared with a

critical value obtained from the chi-square distribution table. If the chi-square critical value was greater than the chi-square contingency table population value, then it was concluded that there is no disparity among MAJCOM's with respect to the AFSC requiring AAD positions in the logistics career areas. This disparity indicates consistency in the understanding and the application of the criteria used in the validation process at all levels. If the critical chi-square distribution value was less than the chi-square contingency table population value, it was concluded that there is a disparity among MAJCOM's by AFSC requiring AAD positions in the logistics career areas. This disparity indicates inconsistency in the understanding and the application of the criteria used in the validation process at all levels. The chi-square test procedures are shown in Appendix C.

The data collected from the content analysis of the approved/validated and disapproved requests provided additional data to answer the research question.

Recommendations for improving the validation process were developed from the content analysis of the approved/validated and disapproved requests. In addition, the interviews with the key individuals of the Logistics Panel provided guidance for developing further recommendations. As previously stated, the guide for the unstructured interviews is attached as Appendix B.

The content analysis and the recommendations received from the personal interviews assisted the researchers in developing the final recommendations for improving the current validation process.

Limitations

The Logistics Panel had on file only the approved and disapproved position validation requests (AF Form 1779) for the years 1973-1974. Therefore, the researchers were not able to review the position validation requests prior to 1973 to determine how they were justified and validated or the reasons for disapprovals.

The members of the Logistics Panel are all located at Headquarters, Air Force, Washington, D. C. To interview these personnel required a visit to the Pentagon. Unfortunately, the limited availability of temporary duty funds constrained the number of trips to two.

Chapter III

ANALYSIS OF DATA

Introduction

The purpose of this chapter is to discuss the analysis of the basic data and the chi-square statistical test of the data. Results of the review of 845 requests for AAD positions, results of five interviews, and the results of the statistical test are given.

Procedure

A review of all approved and disapproved requests for establishing AAD positions on file for the logistics career area was conducted. This included 845 requests covering the years 1973-1974. By applying the previously mentioned evaluation criteria consistently, the researchers obtained the results shown in Table 2.

Content Analysis by AFSC

The review yielded the following results by AFSC:

AFSC 0046. Seven disagreements between the Logistics Panel of the AFERB and the researchers were noted. Four of the requests were not properly aligned with the AAD code requested and the justification for the position was not adequate to warrant AAD classification. One request lacked

Table 2

Content Analysis Results

AFSC	Total	Panel Actions		Thesis Team Analysis			
		Requests		Approved Requests		Disapproved Requests	
		Approved	Disapproved	Agree	Disagree	Agree	Disagree
0046	10	10	0	3	7	0	0
31XX	9	6	3	6	0	3	0
40XX	247	92	155	62	30	155	0
46XX	38	29	9	22	7	8	1
60XX	90	87	3	46	41	3	0
62XX	2	1	1	1	0	0	1
63XX	1	0	1	0	0	1	0
64XX	135	100	35	25	75	35	0
65XX	274	239	35	78	161	35	0
66XX	39	39	0	32	7	0	0
Total	845	603	242	275	328	240	2

sufficient justification. Two of the requests were not for 1AMY coded AAD positions, while the justification indicated they should have been.

AFSC 31XX. The researchers found no disagreements in this career field between the Logistics Panel of the AFERB decisions and the evaluation by the thesis team; however only nine requests were reviewed in this AFSC.

AFSC 40XX. Thirty disagreements were noted. Three of these thirty requests were for AAD coded 1AKY (Industrial or Production Management) while the justifications reflected that 1AMY should have been requested. Two approved requests lacked a description of duties, AFSC alignment and justification for approval as 1AMY. One approved request had only the duties of the position which met the AAD requirements and the level, AFSC alignment and justification were not adequate. Twenty-four requests were approved; however, the justification was not adequate to warrant approval.

AFSC 46XX. Eight disagreements were noted. One request was not for a 1AMY code as the justification indicated. One request did not meet the AFSC and code alignment and had insufficient justification. One request had ample justification, but did not meet any of the other approval criteria. One other request met all criteria requirements

for approval; however, the Logistics Panel of the AFERB disapproved it with no explanation given. Conversely, one request met only the duties criteria; however, it was approved. Three approved requests met all criteria except proper code alignment.

AFSC 60XX. Forty-one disagreements were noted. Thirty-eight approved requests were not adequately justified and did not meet the duties and level requirements. All thirty-eight had the same justification and were all identical positions at base level. Three approved requests were also not adequately justified.

AFSC 62XX. One disagreement was noted. This request met all the criteria for approval, but was disapproved with no explanation given.

AFSC 63XX. No disagreements were noted in this career field; however, only one request was reviewed in this AFSC.

AFSC 64XX. Seventy-five disagreements were noted. Four approved requests were not properly aligned with the AAD code requested. These requests were for 1AYY codes (Management); however, the justification was for 1AMY codes. Nine approved requests had sufficient justification, but met none of the other criteria. Seventeen requests were approved, but met none of the criteria. One approved request met only the duties and level criteria.

Thirty-seven requests were not sufficiently justified. Seven approved requests did not indicate that they had been reviewed at base level, even though the request originated there.

AFSC 65XX. One-hundred and sixty-one disagreements were noted. Fifty-five approved requests were coded 1AKY (Industrial Management) or 1AYY (Management), while the researchers felt they should have been coded 1AMH (Procurement). It should be noted here that the procurement code was changed to 1AMH in 1974 and the procurement member of the panel was at the time of the interview in the process of recoding the fifty-five approved requests from 1AKY or 1AYY to 1AMH. Sixteen approved requests met only the duties and level criteria. Two approved requests met none of the criteria. Fifty-eight approved requests met only the justification criteria. Twenty-seven requests met only the level of the position criteria. Two approved requests met only the AFSC alignment criteria. One request met only level and justification criteria.

AFSC 66XX. Seven disagreements were noted. Two approved requests met the duties and level of the position criteria only. One request was approved for 1ASY (Systems Management) code, when the researchers felt that based on the justification given, 1AMY should have been the proper code requested. Four approved requests were not sufficiently justified.

In total, this portion of the data analysis revealed that out of the 845 requests available for review, 330 requests were found by the researchers to not be in agreement with the results of the Logistics Panel of the AFERB.

Interviews

The interview guide (Appendix B) was used to obtain additional information from the chairman and four functional area representatives of the Logistics Panel of the AFERB. Only the chairman and four members of the panel were interviewed because the members of the Logistics Panel are all located at Headquarters, Air Force, Washington, D.C., and to interview these personnel required a visit to the Pentagon. Unfortunately, the limited availability of TDY funds constrained the number of trips to two. Time also further constrained the number of interviews conducted during the two trips to five. One trip was made on 30 January 1975, and the other was made on 2-3 June 1975. The following personnel were interviewed:

Name of Representative	Functional Area
Lt Colonel David M. Brown	Panel Chairman
Major Joseph A. Sabin	Maintenance
Major Richard R. Priester	Supply
Mr. Anthony Nilo	Transportation
Mr. Edward B. Patrick	Procurement

The Chairman, (2), the Transportation Representative, (7), and the Procurement Representative, (3), all agreed that the validation process was operating in a satisfactory

manner. The chairman was quick to add however, that since logistics has a larger number of AAD positions by percentage than any other Air Force career area, perhaps a revalidation of all validated positions should be accomplished. The chairman further stated that he does not feel that standardization or a quota system is the proper approach. The procurement representative uses a quota system with a base line of 484 validated positions and sees no need for standardization of the validation process. He also pointed out that Procurement is happy with their own internal quota system; however, they feel that this system may not work in the other more diversified areas of logistics. The transportation and procurement representatives both rely heavily on the MAJCOM functional area representatives for their recommendations as to whether requests for AAD positions should be submitted to the Logistics Panel for final approval/disapproval. Both of these functional area representatives further implied that the Logistics Panel automatically approves changes in positions that have been previously validated and both also felt that under the leadership of Lt Colonel Brown,[2] any problems in the validation process will, with time, straighten themselves out.

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[2]This thesis team would like to add that they feel that Lt Colonel Brown has placed much needed emphasis on and displayed the leadership necessary and required to change the direction of the validation process.

Both the Supply, (10), and Maintenance, (11), Representatives of the Logistics Panel felt that the current validation process was not operating in a satisfactory manner. They felt that requests should be judged on their own merits and standardized justifications, or quotas should never be allowed. They also strongly recommended that all validated positions be reviewed and rejustified annually because positions and requirements change. In supply and maintenance, requests for validation require MAJCOM approval prior to subsequent presentation to the Logistics Panel for final approval/disapproval and they recommended continuance of this procedure. They also recommended sending more people out into the field (such as the Education with Industry Programs) and the use of more short courses rather than the current AAD programs. Finally, maintenance and supply representatives felt that the Air Force should tailor AFIT courses to needs and not needs to courses; however, no specific examples were given to help support this assertion.

Statistical Test

As previously stated, the research question was: Is the current Logistics Career Area Validation Process operating in a satisfactory manner? Statistical verification was obtained by determining a population value by AFSC from the chi-square contingency table, which was then

compared with a critical value obtained from the chi-square distribution table. The results are shown in Table 3.

Table 3

Chi-Square Contingency Table Values for Each AFSC

AFSC	X^2 (Table)	X^2 (Critical)	Table Value Less Than or Greater Than Critical Value
0046	109.51	21.0	Greater Than
31XX	3.50	12.6	Less Than
40XX	88.31	21.0	Greater Than
46XX	113.09	21.0	Greater Than
60XX	101.76	21.0	Greater Than
62XX	70.27	21.0	Greater Than
63XX	54.37	21.0	Greater Than
64XX	129.44	21.0	Greater Than
65XX	175.49	21.0	Greater Than
66XX	122.06	21.0	Greater Than

In nine of the ten AFSC's, the critical value was less than the chi-square contingency table population value and therefore it was concluded that there is disparity among MAJCOM's with respect to the AFSC requiring AAD positions in the logistics career areas. This disparity indicates inconsistency in the understanding and application of criteria used in the validation process at Air Force level. In AFSC 31XX, the critical value was greater than the chi-square contingency table population value and therefore it was concluded that there is no disparity among MAJCOM's with respect to this AFSC requiring AAD

positions in this logistics career area. Lack of disparity in this AFSC indicates consistency in the understanding and application of criteria used in the validation process at Air Force level; however, it should be noted that only seven MAJCOM's use the 31XX AFSC (Missile Maintenance). Appendix D contains the chi-square contingency table for each AFSC.

Chapter IV

SUMMARY, CONCLUSION, AND RECOMMENDATIONS

Summary

The purpose of this study was to investigate the current validation process used to code positions in the logistics career areas which require the position incumbent to possess an AAD in a particular field as determined by the Logistics Panel of the AFERB. The researchers were then to develop recommendations for improving the validation of positions process if analysis of the data warranted such action.

Analysis of the data resulted in the following findings:

1. Of the 845 approved and disapproved requests available for review for the years 1973-1974, and based upon the researcher's criteria, 328 of the requests were approved by the panel when they should not have been. Two requests were also disapproved by the panel, but met all of the researcher's criteria necessary for approval.

2. The 65XX AFSC had fifty-five approved requests coded 1AKY or 1AYY which should have been coded 1AMH to reflect the current procurement AAD code; however, it was noted that the procurement code was changed to 1AMH in 1974

and the procurement member of the panel was in the process of recoding the positions.

3. AFSC 31XX had no disagreements between the panel's determinations and the criteria used by the researchers; however, only nine requests were reviewed in this AFSC.

4. AFSC 63XX also had no disagreements between the panel's determinations and the criteria used by the researchers; however, only one request was reviewed in this AFSC.

5. Interviews with the chairman and selected members of the Logistics Panel revealed markedly differing opinions regarding the validity of the work performed by the panel as part of the validation process as well as the inner workings of the process in each logistics functional area.

6. There were significant inconsistencies between MAJCOM's as to what constitutes an AAD position and the total number of AAD positions between MAJCOM's, which further indicates inconsistency in the understanding and application of criteria used in the validation process at Air Force level. The validation process was thus deemed to be operating in an unsatisfactory manner.

Conclusion

The research efforts indicate that while the Logistics Panel can make many improvements in the validation process, the panel system of validation with the current leadership is operating more effectively than the validation system which was in effect prior to the activation of the current panel in 1974.

Recommendations

1. It is the opinion of the researchers that a complete revalidation of all AAD positions be accomplished by each MAJCOM and operating agency in the logistics career areas. After this revalidation process, the requests which have been revalidated as requiring an AAD should be forwarded to the functional area at Air Force level. If approved for revalidation by the functional area, then the requests should be submitted to the Logistics Panel of the AFERB for final approval/disapproval of revalidation.

2. Each MAJCOM functional area should review and develop with their Air Force functional area counterpart a set of guidelines by career area for future guidance to all AAD request submitters. A philosophy by career field initiated at Air Force level is required.

3. AFM 36-19 requires revision. Currently MAJCOM's are using this manual as specific justification for establishing AAD positions, contrary to the intent of the

manual. The manual was intended to be used only as general guidance on how to submit requests for validation of positions and what positions could be validated with proper justification. This manual should be revised to reflect exactly what is required to validate positions.

4. There should be no standardized position system or quota system by job, base, or MAJCOM because each operates in a different environment and thus has different and changing requirements. Each AAD request should be justified on its own merits.

5. Air Force should establish firm guidelines on what constitutes approval or disapproval of requests for validation. This action would eliminate much of the bias introduced into the validation process as reflected by the personalities of the functional area representatives both at MAJCOM and Air Force level. As functional area managers rotate or change jobs, new requirements for validation come into effect as introduced by the new people. Firm guidelines established by Air Force would eliminate this problem.

6. It is the opinion of the researchers that the Air Force has not publicized the AAD program sufficiently. Therefore, this thesis team recommends that the Air Force launch an aggressive campaign to inform all MAJCOM's of the AAD program.

APPENDICES

APPENDIX A

ADVANCED DEGREE REQUIREMENTS

BY AFSC AND COMMAND

APPENDIX A

Table 4

AFSC 0046

Command	Authorized Strength	Requirements	
		Validated	Non-Validated and Others
USAFA	1	0	1
AAC	5	5	0
AFDAA	4	3	1
ATC	23	18	5
AU	3	2	1
AFCS	6	6	0
ADC	22	22	0
USAFE	49	34	15
HAF	47	44	3
HQ COMD	10	5	5
HQ CMD SPECIAL	78	20	58
AFLC	63	45	18
MAC	27	23	4
PACAF	35	22	13
SAC	20	19	1
USAFSS	15	4	11
USAFSO	3	2	1
AFSC	12	12	0
TAC	50	40	10
AFOSI	1	1	0
AFRES	1	0	1
AFISC	6	2	4
TOTAL	481	329	152

Table 5

AFSC 31XX

Command	Authorized Strength	Requirements	
		Validated	Non-Validated and Others
AFDAA	2	1	1
ATC	22	2	20
ADC	18	0	18
HAF	1	0	1
AFLC	11	0	11
SAC	463	53	410
AFSC	5	0	5
AFISC	10	0	10
TOTAL	532	56	476

Table 6

AFSC 40XX

Command	Authorized Strength	Requirements	
		Validated	Non-Validated and Others
AAC	34	1	33
AFDAA	7	2	5
ATC	314	29	285
AU	11	5	6
AFCS	8	0	8
ADC	162	22	140
USAFE	283	31	252
HAF	43	6	37
HQ COMD	22	5	17
HQ CMD SPECIAL	57	0	57
AFLC	247	22	225
MAC	397	38	359
PACAF	239	4	235
SAC	818	35	783
USAFSS	8	0	8
USAFSO	14	1	13
AFSC	97	5	92
TAC	566	9	557
AFMPC	4	0	4
AFRES	7	3	4
AFISC	17	0	17
ARPC	1	0	1
TOTAL	3356	218	3138

Table 7

AFSC 46XX

Command	Authorized Strength	Requirements	
		Validated	Non-Validated and Others
AAC	6	0	6
ATC	27	3	24
ADC	55	2	53
USAFE	187	1	186
HAF	16	10	6
HQ COMD	2	0	2
HQ CMD SPECIAL	40	2	38
AFLC	65	13	52
MAC	5	0	5
PACAF	116	2	114
SAC	173	7	166
USAFSO	1	0	1
AFSC	15	1	14
TAC	149	11	138
AFMPC	2	0	2
AFRES	1	0	1
AFISC	25	2	23
TOTAL	885	54	831

Table 8

AFSC 60XX

Command	Authorized Strength	Requirements	
		Validated	Non-Validated and Others
USAFA	3	0	3
AAC	13	0	13
AFDAA	8	5	3
ATC	52	14	38
AU	3	0	3
AFCS	1	0	1
ADC	15	1	14
USAFE	89	5	84
HAF	28	23	5
HQ COMD	12	3	9
HQ CMD SPECIAL	72	5	67
AFLC	46	10	36
MAC	291	66	225
PACAF	88	10	78
SAC	111	41	70
USAFSS	7	0	7
USAFSO	6	1	5
AFSC	16	2	14
TAC	146	23	123
AFMPC	2	0	2
AFRES	6	1	5
AFISC	3	0	3
TOTAL	1018	210	808

Table 9

AFSC 62XX

Command	Authorized Strength	Requirements	
		Validated	Non-Validated and Others
USAFA	7	0	7
AAC	10	0	10
ATC	48	3	45
AU	4	0	4
AFCS	2	0	2
ADC	8	1	7
USAFE	45	0	45
HAF	4	3	1
HQ COMD	5	0	5
HQ CMD SPECIAL	20	0	20
AFLC	14	0	14
MAC	17	1	16
PACAF	41	0	41
SAC	94	1	93
USAFSS	11	0	11
USAFSO	2	0	2
AFSC	14	0	14
TAC	60	0	60
AFMPC	1	0	1
AFRES	1	0	1
TOTAL	408	9	399

Table 10

AFSC 63XX

Command	Authorized Strength	Requirements	
		Validated	Non-Validated and Others
AAC	6	0	6
ATC	15	0	15
AU	1	0	1
AFCS	1	0	1
ADC	4	1	3
USAFE	22	0	22
HAF	5	3	2
HQ COMD	1	0	1
HQ CMD SPECIAL	24	13	11
AFLC	8	1	7
MAC	11	1	10
PACAF	17	0	17
SAC	35	1	34
USAFSO	1	0	1
AFSC	3	0	3
TAC	20	0	20
AFRES	1	0	1
TOTAL	175	20	155

Table 11

AFSC 64XX

Command	Authorized Strength	Requirements	
		Validated	Non-Validated and Others
USAFA	8	0	8
AAC	22	3	19
AFDAA	16	10	6
ATC	112	24	88
AU	14	4	10
AFCS	66	9	57
ADC	133	1	132
USAFE	180	19	161
HAF	39	19	20
HQ COMD	22	2	20
HQ CMD SPECIAL	117	28	89
AFLC	91	7	84
MAC	133	37	96
PACAF	170	0	170
SAC	278	63	215
USAFSS	33	2	31
USAFSO	11	0	11
AFSC	35	5	30
TAC	231	24	207
AFMPC	2	0	2
AFRES	6	0	6
AFISC	10	0	10
TOTAL	1729	257	1472

Table 12

AFSC 65XX

Command	Authorized Strength	Requirements	
		Validated	Non-Validated and Others
USAFA	3	0	3
AAC	9	0	9
AFDAA	4	1	3
ATC	72	13	59
AU	11	11	0
AFCS	18	2	16
ADC	23	1	22
USAFE	58	8	50
HAF	57	18	39
HQ COMD	7	0	7
HQ CMD SPECIAL	169	108	61
AFLC	206	33	173
MAC	39	15	24
PACAF	34	5	29
SAC	97	6	91
USAFSS	6	0	6
USAFSO	1	0	1
AFSC	604	238	366
TAC	49	21	28
AFMPC	3	0	3
AFRES	2	0	2
AFISC	8	0	8
TOTAL	1480	480	1000

Table 13

AFSC 66XX

Command	Authorized Strength	Requirements	
		Validated	Non-Validated and Others
USAFA	2	0	2
AAC	5	0	5
ATC	26	3	23
AU	4	3	1
AFCS	5	1	4
ADC	8	0	8
USAFE	70	0	70
HAF	38	28	10
HQ COMD	10	2	8
HQ CMD SPECIAL	86	11	75
AFLC	233	39	194
MAC	28	14	14
PACAF	44	2	42
SAC	77	23	54
USAFSS	2	0	2
USAFSO	5	4	1
AFSC	33	6	27
TAC	102	41	61
AFOSI	1	0	1
AFMPC	2	0	2
AFRES	2	1	1
AFISC	1	0	1
TOTAL	784	178	606

APPENDIX B

INTERVIEW GUIDE

APPENDIX B

INTERVIEW GUIDE

Introduction

My name is Captain Aleck Biehl and this is Captain Ronald Sonnier. We are graduate students attending the School of Systems and Logistics, Air Force Institute of Technology, Wright-Patterson AFB, Ohio. In partial fulfillment of the requirements for a Master of Science Degree, a research effort is normally undertaken by a two man team. Our thesis effort to fulfill the requirement is to perform an evaluation of the Air Force logistics career area advanced academic degree position validation process.

Interview Guide for Selected Members of the Logistics Panel

Name:

Duty Title:

Position on the Panel:

Length of time as a Member of the Logistics Panel:

As a member of the Logistics Panel, you are familiar with the current validation process for AAD positions.

1. Therefore, what do you feel are the requirements that are necessary to be met before a position is approved and validated?

2. Do you feel that the current validation process is operating in a satisfactory manner?

3. If not, what do you feel is the cause for the unsatisfactory operating manner?

4. What recommendations can you make that might improve the current validation process?

5. Other questions as dictated by the discussion.

APPENDIX C

CHI-SQUARE TEST

APPENDIX C

CHI-SQUARE TEST

1. Statistical Test:

MAJCOM	VALIDATED POSITIONS	NON-VALIDATED AND OTHER POSITIONS	TOTAL
ADC	O_1 / E_1	O_2 / E_2	
AFLC	O_3 / E_3	O_4 / E_4	
AFSC	O_5 / E_5	O_6 / E_6	
ATC	O_7 / E_7	O_8 / E_8	
AAC	O_9 / E_9	O_{10} / E_{10}	
HAF	O_{11} / E_{11}	O_{12} / E_{12}	
HQ CMD SPEC	O_{13} / E_{13}	O_{14} / E_{14}	
MAC	O_{15} / E_{15}	O_{16} / E_{16}	
PACAF	O_{17} / E_{17}	O_{18} / E_{18}	
SAC	O_{19} / E_{19}	O_{20} / E_{20}	
TAC	O_{21} / E_{21}	O_{22} / E_{22}	
USAFE	O_{23} / E_{23}	O_{24} / E_{24}	
COMBINED	O_{25} / E_{25}	O_{26} / E_{26}	
TOTAL	O_i	O_i	GRAND TOTAL

O_i = Observed Value E_i = Expected Value

$i = 1,2,3,4,\ldots,26$

2. Formula:

a. $$X^2 = \frac{\sum(|O_i - E_i| - .5)^2}{E_i}$$

Where:

X^2 = Chi-Square Contingency Table Value

O_i = Observed Value

E_i = Expected Value

b. $$E_i = \frac{CT \cdot RT}{GT}$$

Where:

CT = Column Total

RT = Row Total

GT = Grand Total

c. $V = (r - 1)(c - 1)$

Where:

V = Degree of Freedom

r = Number of Rows

c = Number of Columns

3. Critical Value from CRC:

X^2 12, .95 = 21.0

X^2 6, .95 = 12.6

APPENDIX D

CHI-SQUARE CONTINGENCY TABLE FOR EACH AFSC

APPENDIX D

Table 14

Contingency Table for AFSC 0046

MAJCOM	Validated Positions O_i / E_i	Non-Validated and Other Positions O_i / E_i	Total
ADC	22/15.05	0/6.95	22
AFLC	45/43.09	18/19.91	63
AFSC	12/ 8.21	0/ 3.79	12
ATC	18/15.73	5/ 7.27	23
AAC	5/ 3.42	0/ 1.58	5
HAF	44/32.15	3/14.85	47
HQ CMD SPEC	20/53.35	58/24.65	78
MAC	23/18.47	4/ 8.53	27
PACAF	22/23.94	13/11.06	35
SAC	19/13.68	1/ 6.32	20
TAC	40/34.20	10/15.80	50
USAFE	34/33.52	15/15.48	49
COMBINED	25/34.20	25/15.80	50
TOTAL	329	152	481

Chi-Square Contingency Table Value Equals 109.51.

Table 15

Contingency Table for AFSC 31XX

MAJCOM	Validated Positions O_i / E_i	Non-Validated and Other Positions O_i / E_i	Total
ADC	0/ 1.89	18/ 16.11	18
ATC	2/ 2.32	20/ 19.68	22
HAF	0/ .11	1/ .89	1
AFLC	0/ 1.16	11/ 9.84	11
SAC	53/48.74	410/414.26	463
AFSC	0/ .53	5/ 4.47	5
COMBINED	1/ 1.26	11/ 10.74	12
TOTAL	56	476	532

Chi-Square Contingency Table Value Equals 3.50.

Table 16

Contingency Table for AFSC 40XX

MAJCOM	Validated Positions O_i / E_i	Non-Validated and Other Positions O_i / E_i	Total
AAC	1/ 2.21	33/ 31.79	34
ATC	29/20.4	285/ 293.6	314
ADC	22/10.52	140/ 151.48	162
USAFE	31/18.38	252/ 264.62	283
HAF	6/ 2.79	37/ 40.21	43
HQ CMD SPEC	0/ 3.70	57/ 53.30	57
AFLC	22/16.04	225/ 230.96	247
MAC	38/25.79	359/ 371.21	397
PACAF	4/15.53	235/ 223.47	239
AFSC	5/ 6.30	92/ 90.70	97
TAC	9/36.77	557/ 529.23	566
SAC	35/53.14	783 764.86	818
COMBINED	16/ 6.43	83/ 92.57	99
TOTAL	218	3138	3356

Chi-Square Contingency Table Value Equals 88.31.

Table 17

Contingency Table for AFSC 46XX

MAJCOM	Validated Positions O_i / E_i	Non-Validated and Other Positions O_i / E_i	Total
AAC	0/ .37	6/ 5.63	6
ATC	3/ 1.65	24/ 25.35	27
ADC	2/ 3.36	53/ 51.64	55
USAFE	1/11.41	186/175.59	187
HAF	10/ .98	6/ 15.02	16
HQ CMD SPEC	2/ 2.44	38/ 37.56	40
AFLC	13/ 3.97	52/ 61.03	65
MAC	0/ .31	5/ 4.69	5
PACAF	2/ 7.08	114/108.92	116
SAC	7/10.56	166/162.44	173
AFSC	1/ .92	14/ 14.08	15
TAC	11/ 9.09	138/139.91	149
COMBINED	2/ 1.89	29/ 29.11	31
TOTAL	54	831	885

Chi-Square Contingency Table Value Equals 113.09.

Table 18

Contingency Table for AFSC 60XX

MAJCOM	Validated Positions O_i / E_i	Non-Validated and Other Positions O_i / E_i	Total
AAC	0/ 2.68	13/ 10.32	13
ATC	14/10.73	38/ 41.27	52
ADC	1/ 3.09	14/ 11.91	15
USAFE	5/18.36	84/ 70.64	89
HAF	23/ 5.78	5/ 22.22	28
HQ CMD SPEC	5/14.85	67/ 57.15	72
AFLC	10/ 9.49	36/ 36.51	46
MAC	66/60.03	225/230.97	291
PACAF	10/18.15	78/ 69.85	88
SAC	41/22.9	70/ 88.1	111
AFSC	2/ 3.3	14/ 12.7	16
TAC	23/30.22	123/115.88	146
COMBINED	10/10.52	41/ 40.48	51
TOTAL	210	808	1018

Chi-Square Contingency Table Value Equals 101.76.

Table 19

Contingency Table for AFSC 62XX

MAJCOM	Validated Positions O_i / E_i	Non-Validated and Other Positions O_i / E_i	Total
AAC	0/ .22	10/ 9.78	10
ATC	3/1.16	45/46.94	48
ADC	1/ .18	7/ 7.82	8
USAFE	0/ .99	45/44.01	45
HAF	3/ .09	1/ 3.91	4
HQ CMD SPEC	0/ .44	20/19.56	20
AFLC	0/ .31	14/13.69	14
MAC	1/ .37	16/16.63	17
PACAF	0/ .9	41/40.1	41
SAC	1/2.07	93/91.93	94
AFSC	0/ .31	14/13.69	14
TAC	0/1.32	60/58.68	60
COMBINED	0/ .73	33/32.27	33
TOTAL	9	399	408

Chi-Square Contingency Table Value Equals 70.27.

Table 20

Contingency Table for AFSC 63XX

MAJCOM	Validated Positions O_i / E_i	Non-Validated and Other Positions O_i / E_i	Total
AAC	0/ .69	6/ 5.31	6
ATC	0/1.71	15/13.29	15
ADC	1/ .46	3/ 3.54	4
USAFE	0/2.51	22/19.49	22
HAF	3/ .57	2/ 4.43	5
HQ CMD SPEC	13/2.74	11/21.26	24
AFLC	1/ .91	7/ 7.09	8
MAC	1/1.26	10/ 9.74	11
PACAF	0/1.94	17/15.06	17
SAC	1/4.	34/31	35
AFSC	0/ .34	3/ 2.66	3
TAC	0/2.29	20/17.71	20
COMBINED	0/ .57	5/ 4.43	5
TOTAL	20	155	175

Chi-Square Contingency Table Value Equals 54.37.

Table 21

Contingency Table for AFSC 64XX

MAJCOM	Validated Positions O_i / E_i	Non-Validated and Other Positions O_i / E_i	Total
AAC	3/ 3.27	19/ 18.73	22
ATC	24/16.65	88/ 95.35	112
ADC	1/19.77	132/113.23	133
USAFE	19/26.76	161/153.24	180
HAF	19/ 5.80	20/ 33.20	39
HQ CMD SPEC	28/17.39	89/ 99.61	117
AFLC	7/13.53	84/ 77.47	91
MAC	37/19.77	96/113.23	133
PACAF	0/25.27	170/144.73	170
SAC	63/41.32	215/236.68	278
AFSC	5/ 5.20	30/ 29.80	35
TAC	24/34.34	207/196.66	231
COMBINED	27/27.94	161/160.06	188
TOTAL	257	1472	1729

Chi-Square Contingency Table Value Equals 129.44.

Table 22

Contingency Table for AFSC 65XX

MAJCOM	Validated Positions O_i / E_i	Non-Validated and Other Positions O_i / E_i	Total
AAC	0/ 2.92	9/ 6.08	9
ATC	13/ 23.35	59/ 48.65	72
ADC	1/ 7.46	22/ 15.54	23
USAFE	8/ 18.81	50/ 39.19	58
HAF	18/ 18.49	39/ 38.51	57
HQ CMD SPEC	108/ 54.81	61/114.19	169
AFLC	33/ 66.81	173/139.19	206
MAC	15/ 12.65	24/ 26.35	39
PACAF	5/ 11.03	29/ 22.97	34
SAC	6/ 31.46	91/ 65.54	97
AFSC	238/195.89	366/408.11	604
TAC	21/ 15.89	28/ 33.11	49
COMBINED	14/ 20.43	49/ 42.57	63
TOTAL	480	1000	1480

Chi-Square Contingency Table Value Equals 175.49.

Table 23

Contingency Table for AFSC 66XX

MAJCOM	Validated Positions O_i / E_i	Non-Validated and Other Positions O_i / E_i	Total
AAC	0/ 1.14	5/ 3.86	5
ATC	3/ 5.9	23/ 20.1	26
ADC	0/ 1.82	8/ 6.18	8
USAFE	0/15.89	70/ 54.11	70
HAF	28/ 8.63	10/ 29.37	38
HQ CMD SPEC	11/19.53	75/ 66.47	86
AFLC	39/52.9	194/180.1	233
MAC	14/ 6.36	14/ 21.64	28
PACAF	2/ 9.99	42/ 34.01	44
SAC	23/17.48	54/ 59.52	77
AFSC	6/ 7.49	27/ 25.51	33
TAC	41/23.16	61/ 78.84	102
COMBINED	11/ 7.72	23/ 26.28	34
TOTAL	178	606	784

Chi-Square Contingency Table Value Equals 122.06.

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